



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,920	12/16/2003	Ming-Theng Wang	FP9956	4268
52981	7590	05/09/2007		
LEONG C LEI			EXAMINER	
PMB # 1008			BASHORE, ALAIN L	
1867 YGNACIO VALLEY ROAD				
WALNUT CREEK, CA 94598				
			ART UNIT	PAPER NUMBER
			1762	
			MAIL DATE	DELIVERY MODE
			05/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/735,920	Applicant(s) WANG, MING-THENG	
	Examiner Alain L. Bashore	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 3 appear to be intended as dependant claims, but while claims 2 and 3 recite antecedent basis for claim 1, there is no preamble that refers to claim 1.

Claims 2 and 3 will be treated as claims dependant to claim 1 for the purposes of this action on the merits.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Woodfield et al in further view of Singh.

Sherman discloses a nano photo catalyst solution prepared by mixing nano titanium dioxide with zinc oxide in a liquid to form a nano photo catalyst at the surface of a work piece. The coating is heated. (see prara 0086, 0109).

Sherman does not disclose:

heating the coating at the work piece to melt zinc oxide of said nano photo catalyst coating without melting nano titanium dioxide of said nano photo catalyst coating; and

polishing the coating at the work piece to press nano titanium dioxide of said nano photo catalyst coating into recesses at the surface of the work piece and to let nano titanium dioxide of said nano photo catalyst coating be bonded to recesses at the surface of said work piece by molten zinc oxide.

Woodfield et al discloses a partial melt without melting titanium (para 0001).

It would have been obvious to one with ordinary skill in the art to include such to Sherman because Woodfield et al teaches incompatibilities (para 0003).

Singh teaches polishing the coating at the work piece (fig 2; para 0164).

Art Unit: 1762

It would have been obvious to one with ordinary skill in the art to include polishing the coating at the work piece to press nano titanium dioxide of said nano photo catalyst coating into recesses at the surface of the work piece and to let nano titanium dioxide of said nano photo catalyst coating be bonded to recesses at the surface of said work piece by molten zinc oxide because Sherman teaches processing after coating.

5. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sherman in view of Woodfield et al in further view of Singh as applied to claims above, and further in view of Watanabe et al.

Sherman, Woodfield et al, and Singh do not disclose the workpiece as either ceramic tile or a glass member.

Watanabe et al discloses a work piece as either ceramic or a glass member (col 6, lines 29-35).

It would have been obvious to one with ordinary skill in the art to include ceramic tile or a glass member as the work piece because Watanabe et al discloses photo catalyst uses.

Conclusion

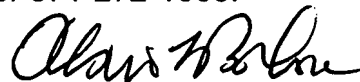
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alain L. Bashore whose telephone number is 571-

Art Unit: 1762

272-6739. The examiner can normally be reached on about 7:30 am to 5:00 pm (Mon. thru Thurs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alain L. Bashore
Primary Examiner
Art Unit 1762